

REC'D 23 MAR 2001

WIPO

PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 7652/JB	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/18070	International filing date (day/month/year) 30/06/2000	Priority date (day/month/year) 01/07/1999
International Patent Classification (IPC) or national classification and IPC C11D11/00		
Applicant THE PROCTER & GAMBLE COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.  
☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 30/10/2000	Date of completion of this report 21.03.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Pentek, E Telephone No. +49 89 2399 8489 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US00/18070

**I. Basis of the report**

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).)*

**Description, pages:**

1-7 as originally filed

**Claims, No.:**

1-10 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
  - ☐ the language of publication of the international application (under Rule 48.3(b)).
  - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
  - ☐ filed together with the international application in computer readable form.
  - ☐ furnished subsequently to this Authority in written form.
  - ☐ furnished subsequently to this Authority in computer readable form.
  - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- ☐ the description, pages:
  - ☐ the claims, Nos.:
  - ☐ the drawings, sheets:
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US00/18070

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-10
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

**2. Citations and explanations**  
**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:  
**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

**ITEM V:**

1. Reference is made to the following documents:

D1: US-A-5 413 727

D2: US-A-5 213 706

D3: GB-A-1 577 140

D4: GB-A-1 489 867

D5: US-A-4 228 043

D6: WO 97/43392

D7: US-A-4 257 908

2. D1 discloses liquid automatic dishwashing detergent compositions comprising a source of potassium ions to provide a potassium/sodium weight ratio of from 1:1 to 45:1, such that substantially all the detergent builder salts and other normally solid detergent additives present in the compositions are dissolved in the aqueous phase (see column 1, lines 53 and 54 and column 5, lines 36 to 41). That means that the compositions of D2 should at least be clear or translucent through the addition of said source of potassium ions. Examples 6, 8 and 24 show such compositions which does not comprise potassium tripolyphosphate. Therefore, the subject-matter of independent claims 1 and 2 is not novel over the teaching of D1.

D2 relates to a homogeneous liquid (gel) automatic dishwashing detergent composition comprising: (a) 5-28% sodium trimetaphosphate, (b) 3-12% potassium hydroxide, (c) 2-20% sodium silicate, (d) 0-3% thickening polymer, and balance water, wherein the composition contain both sodium and potassium ions in a K:Na weight ratio of 0.5 and less than 1, is substantially free of added potassium salts and substantially all of the alkaline components (a), (b) and (c) are soluble to form a homogeneous liquid detergent composition (see column 1, lines 7 to 16 and claim 1). Thus, such a composition should also be at least clear or translucent. In view of examples 1, 9, 10, 11 and 14 to 17, the addition of potassium hydroxide to compositions comprising sodium trimetaphosphate leads to homogeneous (or at least clear or translucent) liquid detergent compositions. In consequence, the subject-matter of independent claims 1 and 2 is also not

novel in the light of D2.

D3 is concerned with homogeneous, clear, built liquid detergent compositions which can be obtained by using certain mixtures of sodium tripolyphosphate and potassium orthophosphate. These compositions do not comprise potassium tripolyphosphate (see examples) and the weight ratio of K:Na is comprised within the range defined in independent claim 2.

Therefore, the subject-matter of independent claim 2 is not novel over the teaching of D3

D4 refers to clear liquid detergents for use in automatic dishwashing machines, said detergents comprise both Na and K ions in the weight ratio as indicated in the present invention and contain no potassium tripolyphosphate (see passages indicated in the Search Report).

Thus, the subject-matter of independent claim 2 is not novel in view of D4.

D5 describes a clear liquid detergent composition being free of potassium tripolyphosphate and comprising potassium alkylbenzene sulphonate, potassium coconut soap, potassium orthophosphate and potassium carbonate (example III). The weight ratio of potassium:sodium seems to correspond to that disclosed in the present claims.

Therefore, D5 is also novelty destroying for the subject-matter of independent claim 2.

D6 refers to transparent liquid bleaching compositions (pages 4 and 17). One of these compositions (example IX) comprises potassium bromide, tetrapotassium pyrophosphate and tripotassium phosphate and no potassium tripolyphosphate. The weight ratio of potassium:sodium also seems to correspond to that disclosed in present claim 2.

Consequently, the teaching of D6 anticipates the subject-matter of independent claim 2.

D7 is also novelty destroying for the subject-matter of independent claim 2 as it relates to translucent single phase gel compositions comprising potassium pyrophosphate. The compositions are free from potassium tripolyphosphate and

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

---

International application No. PCT/US00/18070

have a potassium:sodium weight ratio as defined in the present application (see claim 1 and examples of D7).

The subject-matter of dependent claims 3 to 10 is also known from at least one of the documents D1 to D7.

3. Even if the novelty objections raised above could have been overcome, the present invention will not involve an inventive step over the teaching of D1, D2, D3 or D4.

**ITEM VII:**

4. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D1 to D7 is not mentioned in the description, nor are these documents identified therein.

**ITEM VIII:**

5. Claims 2 to 10 lack clarity because a dependent claim for a process (process claim) cannot refer to a claim of a different category (product claim).
6. Claim 4 cannot be dependent on claim 3 since KOH is not listed in the group of potassium sources as defined in claim 3. For a similar reason claim 10 cannot refer to claim 9.
7. The vague and imprecise statement in the description on page 7 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them (see also the PCT Guidelines, III-4.3a).

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 00/18070

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C11D11/00 C11D3/06 C11D7/16 C11D7/10 C11D3/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1 577 140 A (UNILEVER LTD) 22 October 1980 (1980-10-22) page 1, line 53-60; examples ---	1-10
X	GB 1 489 867 A (ALBRIGHT & WILSON) 26 October 1977 (1977-10-26) page 1, line 7 page 2, line 10,11 examples 5,6,13 ---	1-10
X	US 5 413 727 A (DRAPIER JULIEN ET AL) 9 May 1995 (1995-05-09) column 1, line 53,54 column 5, line 36-41 column 15, line 47 -column 16, line 12 examples 6,8,24 --- -/--	1-10



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

17 October 2000

Date of mailing of the international search report

26/10/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

Authorized officer

Pentek, E

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/18070

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 213 706 A (RAPISARDA ANTHONY A ET AL) 25 May 1993 (1993-05-25) column 1, line 13,33-43; claim 1; examples ---	1,2,4-10
X	US 4 228 043 A (VAN DEN BROM GUIDO C) 14 October 1980 (1980-10-14) example III ---	2-10
X	WO 97 43392 A (PROCTER & GAMBLE) 20 November 1997 (1997-11-20) page 4, last paragraph page 17, paragraph 2 example IX ---	2,3,6-10
X	US 4 257 908 A (WIXON HAROLD E) 24 March 1981 (1981-03-24) claim 1; examples -----	2,6-10



# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/18070

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 1577140	A	22-10-1980	AT 372700 B	10-11-1983
			AT 367477 A	15-03-1983
			BE 854905 A	23-11-1977
			BR 7703300 A	14-03-1978
			CA 1100381 A	05-05-1981
			CH 631205 A	30-07-1982
			DE 2722987 A	08-12-1977
			DK 225677 A, B,	25-11-1977
			ES 459098 A	16-08-1978
			FI 771608 A	25-11-1977
			FR 2352877 A	23-12-1977
			GR 63138 A	18-09-1979
			IT 1083278 B	21-05-1985
			JP 1297630 C	20-01-1986
			JP 52151308 A	15-12-1977
			JP 60021640 B	28-05-1985
			LU 77405 A	22-12-1977
			NL 7705672 A	28-11-1977
			NO 771775 A, B,	25-11-1977
			PT 66594 A, B	01-06-1977
			SE 433086 B	07-05-1984
			SE 7706013 A	25-11-1977
			ZA 7703064 A	31-01-1979
GB 1489867	A	26-10-1977	AU 507654 B	21-02-1980
			AU 7396474 A	08-04-1976
			BE 820707 A	03-02-1975
			CA 1050381 A	13-03-1979
			DE 2447500 A	24-04-1975
			ES 430696 A	16-04-1977
			FR 2246535 A	02-05-1975
			IT 1020939 B	30-12-1977
			JP 50078606 A	26-06-1975
			NL 7413111 A	08-04-1975
			SE 7412479 A	07-04-1975
			ZA 7406254 A	26-11-1975
US 5413727	A	09-05-1995	US 5064553 A	12-11-1991
			US 5098590 A	24-03-1992
			US 4801395 A	31-01-1989
			US 4752409 A	21-06-1988
			US 5427707 A	27-06-1995
			AU 632221 B	17-12-1992
			AU 7291291 A	19-09-1991
			CA 2038023 A	14-09-1991
			EP 0446761 A	18-09-1991
			GR 91100120 A, B	30-06-1992
			NO 910964 A	16-09-1991
			NZ 237301 A	25-09-1992
			PL 289391 A	02-12-1991
			PT 96998 A	31-10-1991
			AT 118245 T	15-02-1995
			AU 625182 B	02-07-1992
			AU 5460790 A	22-11-1990
			CA 2015150 A	18-11-1990
			DE 69016696 D	23-03-1995
			DE 69016696 T	05-10-1995
			DK 398021 T	10-07-1995

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/18070

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5413727 A		EP 0398021 A GR 90100382 A NO 176765 B NZ 233564 A PL 285227 A PT 94057 A US 5368766 A US 5298180 A US 5395547 A US 5053158 A US 5252242 A US 5202046 A US 5252241 A US 5205953 A US 5229026 A US 5225096 A US 5232621 A US 5246615 A AT 396935 B AT 190087 A AU 612586 B AU 7629587 A BE 1002558 A BR 8703993 A CH 674016 A DE 3724484 A DK 170074 B ES 2007391 A FI 873423 A, B,	22-11-1990 10-10-1991 13-02-1995 25-02-1992 28-01-1991 08-01-1991 29-11-1994 29-03-1994 07-03-1995 01-10-1991 12-10-1993 13-04-1993 12-10-1993 27-04-1993 20-07-1993 06-07-1993 03-08-1993 21-09-1993 27-12-1993 15-05-1993 18-07-1991 11-02-1988 26-03-1991 05-04-1988 30-04-1990 18-02-1988 15-05-1995 16-06-1989 08-02-1988
US 5213706 A	25-05-1993	CA 2082033 A	09-05-1993
US 4228043 A	14-10-1980	AT 362037 B AT 601578 A BE 869806 A BR 7805359 A CA 1110518 A CH 636122 A DE 2836277 A DK 367078 A, B, ES 472727 A FI 782495 A, B, FR 2401220 A GB 2003172 A, B GR 64409 A IT 1160608 B JP 1286863 C JP 54043209 A JP 60010560 B LU 80138 A NL 7808161 A NO 782831 A, B, PT 68455 A SE 425918 B SE 7808818 A ZA 7804752 A	27-04-1981 15-09-1980 19-02-1979 10-04-1979 13-10-1981 13-05-1983 01-03-1979 23-02-1979 16-10-1979 23-02-1979 23-03-1979 07-03-1979 21-03-1980 11-03-1987 31-10-1985 05-04-1979 18-03-1985 15-05-1979 26-02-1979 23-02-1979 01-09-1978 22-11-1982 23-02-1979 26-03-1980
WO 9743392 A	20-11-1997	AU 6145196 A	05-12-1997

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/18070

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9743392 A		BR 9612610 A	20-07-1999
		CZ 9803685 A	12-05-1999
		EP 0912695 A	06-05-1999
		HU 9903494 A	28-03-2000
		JP 11511779 T	12-10-1999
		US 6037318 A	14-03-2000
US 4257908 A	24-03-1981	AU 509049 B	17-04-1980
		AU 1626976 A	02-02-1978
		CA 1070590 A	29-01-1980

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>7652/JB</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 00/ 18070</b>	International filing date (day/month/year) <b>30/06/2000</b>	(Earliest) Priority Date (day/month/year) <b>01/07/1999</b>
Applicant <b>THE PROCTER &amp; GAMBLE COMPANY</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures.